Ep. #305 - Unlearning vs. Retraining – The Neuroscience of Recovery & Pain Relief

Full Episode Transcript

With your host:
Susi Hately

From Pain to Possibility with Susi Hately

Introduction 00:00:01 You're listening to From pain to Possibility with Susi Hately. You will hear Susi's best ideas on how to reduce or even eradicate your pain, and learn how to listen to your body when it whispers so you don't have to hear it scream. And now here's your host, Susi Hately.

Susi 00:00:22 Welcome and welcome back. I'm so glad that you're here, because today we're diving into a key concept for anybody with pain or injury. And it's about unlearning versus retraining and why retraining is the real path to reducing and eliminating physical pain. This is such an important concept because the number of people who will tell me after they've learned some things from me, working with me privately, is they need to unlearn habits. There's an unlearning process, or even the trainees that I'm working with when they realize that alignment isn't the thing and they need to unlearn that alignment conversation. And the reality is there's not an unlearning that needs to happen. The nervous system doesn't delete patterns, it replaces them.

Susi 00:01:16 When we think about ourselves when we were 4 or 5, you can probably pull up a memory and how that memory feels in your body, what thoughts are generated, even what smells come up. And sometimes those memories are great, sometimes they're not. My point is, is that there's these imprints in our system. Whatever our habits have been, they still exist. It's whether we draw from them or not. So a big piece of the way that I work with my clientele is I help them to retrain patterns, to grow their awareness about what it is that they're doing, retrain the pattern so they have a new awareness. Improve the components of interoception and proprioception. So that becomes more ingrained in their system and that becomes the new pattern. I liken it, in a sense, to the analogy of a mountain. I live really close to some beautiful mountains, and when you see the snow melt, the snow slides down and a waterfall is created. And then when the snow's all melted, you can see these grooves in the mountain. And what's so amazing as an analogy is that I can say, all right, so that waterfall coming down grooves a pattern in the side of the mountain.

Susi 00:02:28 That groove is there. Our aim is to create a new pattern, a new groove in the mountain. When I was in my 20s, I had chronic pain for two years from the patterns that had been grooved from a series of athletic endeavors that I had been doing. When I got into yoga, I started to "regroove" new patterns. Those old patterns were still there, but I retrained into newer patterns that were more efficient, that were safer, but honoured where I was at. So then I was able to get back to running again within four months of my yoga practice, pain free. Then I got into more yoga. I fell totally in love with it, and about 5 or 6 years later, I decided I wanted to get back to running again and to run a half marathon, which I'd never done. As I got into more load, more distance, I felt the whispers of the old patterns emerge and I'm like, oh, isn't this interesting? And what I realized is I didn't have the infrastructure to bear the load of that training.

Susi 00:03:30 So guess what I did? I retrained my patterns again and improved the infrastructure, my internal infrastructure, so I could absorb the load of the training. And guess what? I went on and ran a great half marathon pain free. So the idea here is that we want to retrain patterns, improve efficiencies. We don't need to unlearn. And this is true whether you're

recovering from an injury, whether you're wanting to retrain and reduce persistent physical pain or eliminate it, or try to restore movement after years of compensation. So to build into this whole idea of unlearning versus retraining, we're going to explore the following ideas. What motor control and plasticity are, why they matter for healing. How neuroplasticity and motor adaptation help you move out of pain, and why forcing you to unlearn movement habits doesn't work. And what does? And I hope that by the end of this episode, you'll really understand why the real key to recovery isn't about stopping bad movement patterns, but reinforcing better ones and retraining better ones, and that ultimately those old ones aren't pulled from.

Susi 00:04:38 They don't become your default anymore. They shift in their role in your system. So let's begin with this idea of motor control and plasticity when we're talking about motor control, we're talking about the essentials in movement efficiency, injury prevention and pain reduction. Motor control helps to ensure that movements are well regulated, balanced and adaptive to different environments and demands. We're talking about how the nervous system organizes movement. So practically every time you stand, walk or reach for something, your brain is coordinating multiple systems at once. Think about being on a bike, right? You're getting on the bike. Your feet find the pedals, you're learning how to pedal, it's a little bit wobbly, and then you find your groove. At first, every movement requires focus, but over time it becomes automatic. And that's really the motor control at work. And as we get into motor plasticity, this is what allows us to refine movement patterns over time. How we go from being really stiff and hesitant to fluid and natural. So as an example, let's say that you've been moving in a way that reinforces pain.

Susi 00:05:51 Maybe it's guarding an injury or you're over utilizing certain muscles. The thing here that's important is that you probably don't even know you're doing it, because it's all these compensatory patterns that are under our level of awareness. So we can't change what we're not we're not aware of. The body doesn't just stop to do it. What we need to do is not trying to erase these little patterns because as I mentioned, many of them lie under our awareness. They lie in this connection between our brain or in our nervous system and our myofascial system. What we get to do is to learn safer, more efficient ways to move. So we're honouring this connection between nervous and myofascial system, which has as its foundation this need for safety, this need for connection. And if we're not honouring that, we're not going to improve that relationship between our nervous system and brain and our myofascial system. This is how we improve our ability to organize movement. This is how we improve our ability to stand, walk or reach for something. This is how we improve the way that we coordinate multiple systems at once.

Susi 00:07:06 So if we get into the idea of neuroplasticity and motor adaptation, which really is the science of change, neuroplasticity is your brain's ability to rewire itself based on experience. Every time you repeat an action or feel a sensation, your nervous system is strengthening that pathway. So think about people who've been in pain for a long period of time. Their nervous systems start to expect pain even if the original injury has healed. It's like a habit that's been reinforced over and over again. And the amazing thing about my saying that, is that in the more recent past it certainly wasn't when I started my career there's a really clear understanding that

the brain interprets the sensation called pain. So when that sensation comes up into our brain and we do what we do in our brain, and then we determine that, oh, that's dangerous, then that symptom goes up. If we recognize that, oh, it's not so dangerous and the symptom goes down the way we perceive it changes. And the beauty here is that there's such power there.

Susi 00:08:08 So we can have pain and there be no tissue damage. We can have pain and there is tissue damage. We can have no pain and have no tissue damage. We can have no pain and have tissue damage. So the reason I call this "the beauty of it" is that you can have pain and have no tissue damage. So this brings us to neuroplasticity and motor adaptation, the science of change. Neuroplasticity is your brain's ability to rewire itself based on experience. Every time you repeat an action or feel a sensation, your nervous system strengthens that pathway. This is really, really important when we're looking at pain, because we now know clearly that you can have no tissue damage and have pain. And one of the theories behind this is that because you've been in pain for a long time, the nervous system starts to expect pain even when the original injury has healed. It's habitual. So when people hear that, they often think that they're crazy because what they're told is that this is happening in their brain, which is how they interpret that as, oh, it's all in my head.

Susi 00:09:14 One of the big things that's important when I'm teaching people is to say, I'm going to break this down for you into a really small component part, meaning: it's amazing that there is no tissue damage and that you're feeling pain because there's no tissue damage, which means based off of the work that I do and what I'm really good at is I can help change movement patterns. And when those movement patterns are changed, the way the nervous system and the myofascial system interacts also changes. And that is where the ingredients for pain reduction and elimination reside in my work. So I help people reduce compensatory patterns. I help them grow their awareness of what they're not aware of, because so much about pain lies under our level of awareness. So when we improve those movement patterns, when we improve what we're aware of, we can actually resolve the thing we're not aware of. Pain goes down consistently. So the bumper sticker on this is you can be in pain for a long time. You can have a habitual pattern that your nervous system is expecting pain even if the original injury is healed.

Susi 00:10:31 But it does not mean that the pain is all in your head. What it means is that the pain is an indicator that something's up, and that "something being up" in the work that I do is that there's a movement pattern that's not quite working the way it needs to. And when we can improve that movement pattern, things begin to change. Which leads us into motor adaptation. Motor adaptation is how your body adjusts to movement based on real time feedback. This is a great example of what I've just been saying. So when I'm seeing people who have compensation patterns from whatever they've been doing, when we can retrain that compensation pattern, we now break the ingrained patterning that the compensation provided. We provide a new way of doing something. We retrain that nervous system myofascial system connection to restore more balanced movement. A classic example of this is people who have back pain. Time and time again, what I have noticed with people who have back pain is they

have compensatory patterns in their pelvis and in their legs, and how their pelvis and legs connect to their feet, how their pelvis and their ribcage and the shoulder blades all connect.

Susi 00:11:50 And so there's all sorts of different ways they think that they're moving their arm bone well in their socket. They think that they're moving their leg bone well in their hip socket, and they're doing all the rolling, and they're doing all the flexibility and stability and the cat and cows and the supermans and the planks and all the things. But the underlying patterning is still really inefficient, and it's a reason why their pain is persisting. So when we start to recognize how they're actually moving and reduce that compensation pattern, they can continue to do all those things. But now that they're aware and they're more tuned in interoceptively and proprioceptively, they've successfully retrained their systems. They've retrained. They haven't unlearned. Instead of forcing old patterns or trying to strengthen or mobilize over top of old patterns, we've introduced new, more efficient, more pain free patterns, and as a result, they become the default and the old ways are not as needed. So this leads us to the myth of just unlearning. A lot of people think that to recover from pain, they just need to unlearn bad movement habits.

Susi 00:13:02 But again, as I've mentioned, the nervous system doesn't work by erasing. It works by replacing. So if we take an example of someone who's had a knee or a hip replacement, oftentimes they will be coming out of surgery thinking that their limp will have gone away. They limped before surgery. They think that, oh, I've got a new knee, I've got a new hip. I'm going to be able to be fine. The pain's not gonna be there. I should be able to walk out of that space very effectively. But the reality has been is that through the time of that joint degeneration and that limping pattern, their system, their brain and their body develop protective movement patterns. Could be tightening the back, it could be avoiding certain positions, it could be bracing the core excessively, it could be loading the opposite hip and knee more so than the affected knee or hip, it could be how they're holding their toes or gripping through their feet, or how they're holding their pelvic floor, or their breath, or even around their shoulder girdles and their ribcage.

Susi 00:14:03 It's a big reason why one of the lower cost entry level programs I run called Power the Pits, can be so impactful for people who have knee and hip pain, because many of them have gripped and held up high in their ribs and in their armpits. And when we start to free that up, it starts to free up how the other tissue in their body begins to respond. And that's all a step to being able to walk more effectively. But because this is an ingrained pattern, people actually do need to do the retraining. It's not simply saying, let's walk better. We actually have to recreate those movement patterns, because we've compensated for so long that the pattern is what the brain believes the pattern to be in order to walk. So we need to relearn how that leg bone moves in the hip socket, how it rotates in the hip socket, how that foot lands on the ground, how the forces are absorbed going up towards the pelvis and are dissipated through the body, as well as how the forces move through and down the leg into the foot.

Susi 00:15:10 How we shift weight from left to right, how we rotate through our system. These are all patterns that get to be built and grown and honed as part of the recovery process coming

out of a knee or hip replacement, which leads to really, really great outcomes. So again, what we're focusing on is retraining movement patterns by introducing gentle and efficient motion that has, at its foundation, safety. And then those old limping patterns will naturally fade away. It's not strengthening on top of, but it's retraining those fundamental foundational patterns. The other piece that's really important here is this process is not one of telling someone to stop moving in a certain way because it's not wrong. The fact that they were limping was an amazing adaptation in order to keep living a life they wanted to live. So now there's the new knee or the new hip. Now we get to improve that patterning. We can get back to living the life you want to live without the pain. So this leads to retraining then, as the path of unlearning.

Susi 00:16:28 Now that we know that retraining really is the path to better function, reduced pain, better strength and stability, better walking, how do we actually apply this in recovery? What do I actually do? So there's a couple of things that I like to explain to both my students and my trainees. The first one is that baby steps really leads the way. Baby steps are an analogy for taking small, granular biomechanical movement and improving that first, and having someone witness and experience and feel both interoceptively and proprioceptively what happens when they improve that foundational, granular biomechanical movement. So it may simply be how that leg bone moves in rotation in the hip socket and does it. And what happens when we allow that pelvis to be quiet when we're simply doing a leg bone moving very simply in that socket. It might be how the arm bone is moving overhead, or how when going into a twist, how the rib cage and pelvis interrelate, then you start to build those movement patterns together. So we go slowly, granular movement and then pull more joints in together, add more planes of movement, make it more complex in a very stepwise, progressive way.

Susi 00:17:48 Moving in a way that reduces or does not have pain increase is fundamental. If we give the nervous system more pain, it will give us give us pain back in kind. I liken it to when we're making a tomato sauce or a stew and you make it spicy. We don't change the quality of the stew or the taste of the stew or the tomato sauce by adding more spice. We add more tomato. We do something different. So if we want a different experience in terms of how we feel pain, then we need to shift what we're doing. If you continue to move in pain, you will continue to have pain. So if you want to move, if you want to have pain free movement, begin by moving with less pain, or at least in a way that doesn't increase pain. Now, this might mean that your range of motion becomes smaller for a period of time, but it doesn't mean that you're going to have small range of motion forever, but rather with all the steps that I've talked about above, that range of motion will naturally improve as you continue to retrain.

Susi 00:18:52 Adding to that, the body doesn't respond to force, it responds to clarity and ease. And this really builds upon the first two small movements and pain free movements, or at least moving in a range that doesn't increase pain. Ease is at the foundation to this. So rather than trying to push through pain, focus in on can you move with ease? Think about that quality of ease. Allow yourself to settle. Another way of saying this is relax first, then move, then strengthen. Find a place of ease and comfort and move with comfort and ease in mind. And as you grow that comfort and ease, you're going to find yourself getting stronger. You're going to find yourself getting stable. You're going to find your tissue starting to release. But if you start

with strain, you're going to cultivate strain. You're going to move with strain and you're going to get more strain. So think about coming from this place of ease to begin with. Choose that and you'll be really amazed what starts to happen.

Susi 00:20:06 Yes, you might have a desire to make things happen quicker, but also remember this: fast is rough, slow is smooth, smooth is fast. Allow for coordination and control. Allow for adaptation, neuroplasticity, to really fuel this process. Allow yourself to settle into the results. Because when you see those results, there's a whole other layer of neuroplasticity that will happen. When you see those results, you will see possibility. You will realize that your body can change, and that will change the belief of what is possible and will reinforce the movement dynamics. The moving in a pain free range of motion, the moving in a soft and easeful way. You will see that working and you will continue to do it and you'll reinforce those new patterns. And that is where you'll then continue to move from and strengthen from. And it's powerful for change. It's powerful for strengthening. It's powerful for stamina, endurance, stability, for balance, for all of those good things. You don't need to unlearn habits that aren't working for you.

Susi 00:21:24 You just need to retrain better ones. And then as you do the better ones, old ones will begin to fade. If you want to dig into this more and you're a health professional or a yoga teacher, and you want to help your folks reduce and eradicate pain more effectively and more quickly, come join me at the Therapeutic Yoga Intensive. I would love, love, love to work with you. Earlybird registration is on now for the program that begins in April 2025. You can learn more over at functionalsynergy.com/intensive. We'll see you then.